REMARKS

This Amendment is responsive to the Office Action mailed January 8, 2008. By this Amendment, Applicants cancel claims 2, 4 and 6, and amend claims 1, 3, 5, and 15-17. Claims 1, 3, 5, 7-10, and 15-17 are pending and under consideration.

Reconsideration and withdrawal of the rejections made in the above-referenced Office Action are respectfully requested in view of the following Amendment and Remarks. Support for the Amendment can be found in the specification and claims as filed, e.g., at page 13, lines 6-14; Examples 1-4 on pages 16-18, including Example 1 at page 16, lines 23-27; and original claims 2, 4, and 6.

Entry of the instant Amendment and Remarks after Final Rejection is appropriate as the amendments would appear to place the application into better form for appeal by materially reducing or simplifying the issues for appeal. Further, no issues are raised and no additional searching would be required.

Interview Summary

Applicants' representative Walter Schlapkohl thanks the Examiner for the courtesies extended to him in the telephonic interview of March 23, 2010.

During the interview Applicants' representative discussed the rejections of the claims under 35 U.S.C. § 112, first paragraph (new matter and enablement), as well as the rejections under 35 U.S.C. § 112, second paragraph. In particular, Applicants' representative discussed potential claim amendments, which may be made to obviate the outstanding rejections, although Applicants' representative did not state that any particular amendment would definitely be made.

With respect to claim 1, the Examiner suggested that Applicants recite some sort of comparison or control for someone known to have rheumatoid arthritis (RA). With respect to claims 3 and 5, the Examiner indicated that incorporation of the features of claims 4 and 6, respectively, would render claims 3 and 5 clearer and more definite. Amendments in accordance with the Examiner's suggestions are included herein, as a remarks directed thereto.

With respect to claims 1, 3, and 5, Applicants' representative inquired whether the Examiner would find recitation of "a subject suspected of having rheumatoid arthritis" acceptable. In response, the Examiner indicated that such language would be acceptable, but the Examiner would not confirm that such language would be sufficient to obviate the enablement rejection.

Information Disclosure Statements

Applicants thank the Examiner for acknowledging receipt and indicating consideration of all of the documents listed in the Information Disclosure Statements of July 24, 2006; May 8, 2009; and June 17, 2009.

Rejection of the Claims Under 35 U.S.C. § 112, First Paragraph (New Matter)

The Office Action rejects claims 1-10 and 15-17 as allegedly containing new matter. In particular, the Office Action alleges that the background information [of the specification] does not provide support that Applicants were in possession of the instant methods with regard to RA in which human L-PGDS is measured in a sample collected from a subject free of renal disease and/or ischemic disease.

In response, Applicants submit that the claimed subject matter is described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, were in possession of the claimed invention. Furthermore, and without acquiescing to the propriety of the rejection, Applicants submit that the present amendment is responsive to the instant rejection. In particular, Applicants submit that the claimed subject matter as amended no longer recites "free of renal disease and/or ischemic heart disease." In addition, Applicants submit that the claimed subject matter as amended is in accordance with the Examiner's comments during the interview of March 23, 2010.

Accordingly, Applicants respectfully request reconsideration of the foregoing rejection, and withdrawal of the same.

Rejection of the Claims Under 35 U.S.C. § 112, First Paragraph (Enablement)

The Office Action also rejects claims 1-10 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. In particular, the Office Action states that the claimed subject matter is enabled for methods wherein the levels of human L-PGDS in a sample collected from a subject without renal or heart disease or other diseases known to affect the levels of L-PGDS are compared to those of a healthy patient. However, the Office Action alleges that the specification does not reasonably provide enablement for the methods of detecting or differentiation rheumatoid arthritis as claimed. For example, the Office Action states at page 8, last full paragraph, that "[t]he claims do not specify that the subject have rheumatoid arthritis (RA) or are suspected to have RA, thus the scope covers detection of LPDGS in both subjects or subjects who have other diseases except for renal or ischemic heart disease."

In response, and without acquiescing to the propriety of the rejection, Applicants submit that the present amendment addresses the instant rejection. In particular, claim 1 recites "[a] method of detecting or differentiating rheumatoid arthritis, comprising:

measuring the level of human lipocalin-type prostaglandin D synthase (L-PGDS) in a sample collected from a subject suspected of having rheumatoid arthritis;

comparing the measured level of human L-PGDS with a predetermined cut-off value based on (i) measurements of human L-PGDS in samples collected from healthy volunteers and/or patients with joint diseases other than rheumatoid arthritis, and (ii) measurements of human L-PGDS in samples collected from rheumatoid arthritis patients; and

detecting or differentiating rheumatoid arthritis if the level of L-PGDS in the sample collected from the subject suspected of having rheumatoid arthritis is higher than the predetermined cut-off value."

For example, Applicants submit that the claimed subject matter recites a comparison or control step for someone known to have RA, i.e., "comparing the measured level of human L-PGDS with a predetermined cut-off value based on (i) measurements of human L-PGDS in samples collected from healthy volunteers and/or patients with joint diseases other than rheumatoid arthritis, and (ii) measurements of human L-PGDS in samples collected from rheumatoid arthritis patients." Applicants also submit that the above recitation is in accordance with the guidance provided by the Examiner during the Interview of March 23, 2010, summarized above.

Applicants further submit that the claimed subject matter also includes recitation of "a subject suspected of having rheumatoid arthritis" (claim 1) or "a subject having rheumatoid arthritis or suspected of having rheumatoid arthritis" (claim 5).

Applicants further submit that one of ordinary skill in the art would know how to detect RA or differentiate RA from other diseases without undue experimentation. For example, the specification discloses that L-PGDS concentrations can be measured in body fluids collected from healthy volunteers and/or patients affected with joint disease other than RA (see page 13, lines 6-18). The distributions of L-PDGS concentrations in the case of patients affected with joint diseases other than RA and/or healthy volunteers can then, for example, be obtained and used to calculate a cut-off value. *Id.* Then, the distribution of L-PGDS concentrations in the case of RA patients can be obtained. *Id.* A cut-off value can then be used, for example, to detect or determine that a subject is affected with RA. *Id.*

The specification not only provides guidance with respect to detecting or differentiating rheumatoid arthritis in RA patients, but working examples as well. For instance, Example 1 on page 16 and Example 4 on pages 17-18 provide working examples with respect to detecting or differentiating rheumatoid arthritis in RA patients as compared to (1) patients with various other types of arthritis such as gout, pauciarticular arthritis, osteoarthritis, and seronegative spinal arthritis and (2) healthy volunteers. Accordingly, a joint disease considered to be a possible RA case was found to be highly likely when the suspected RA was accompanied by high L-PDGS concentration in the blood (specification at Example 1, especially page 16, lines 23-27). Thus, the specification provides guidance as well as working examples with respect to the claimed subject matter.

Based at least on foregoing, including the guidance provided by the specification, the presence of working examples, and the level of skill for one of ordinary skill in the art in this field, Applicants submit that one of ordinary skill in the art could practice the claimed invention without undue experimentation. In view of the above, Applicants respectfully request

reconsideration of the rejection under 35 U.S.C. § 112, first paragraph (enablement) and withdrawal of the same.

Rejection of the Claims Under 35 U.S.C. § 112, Second Paragraph

The Office Action rejects claims 2, 3, 4, 5, and 6, under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. In particular, the Office Action rejects claims 2, 4, and 6, for not specially providing a definition of a predetermined cut-off value or setting forth a predetermined cut-off value.

In response, and without acquiescing to the propriety of the rejections under 35 U.S.C. § 112, second paragraph, with respect to claims 2, 4, and 6, Applicants submit that claims 2, 4, and 6, have been cancelled, rendering the rejection moot. To the extent that claims 1, 3, and 5, as amended, now recite "a predetermined cut-off value," Applicants submit that the instant amendment is in accordance with the guidance provided by the Examiner during a March 23, 2010 interview, and refer the Examiner to the Examiner's Interview Summary of March 29, 2010, wherein the Examiner indicates that Applicants' representative was advised that such recitation may remain for the Examiner's further consideration.

With regard to claim 3, the Office Action alleges that "it is not clear how measuring the level of LPDGS in sample from a subject free of renal disease or ischemic heart disease determines the stage of disease with regard to rheumatoid arthritis as there is no comparison with measurement values of the concentration of LPDGS in, for example, rheumatoid arthritis patients in different stages of the disease..." (Office Action at paragraph bridging pages 12-13).

In response, and without acquiescing to the propriety of the rejection, Applicants submit that the claimed subject matter is now even clearer and more definite. In particular, Applicants submit that the claimed subject matter now clearly and definitely includes recitation of a comparison between the measured level of human L-PGDS with a predetermined cut-off value based on measurements of human L-PGDS in samples collected from rheumatoid arthritis patients classified in accordance with the stage of disease.

With regard to claim 5, the Office Action alleges that "it is not clear how measuring the level of LPDGS in sample from a subject free of renal disease or ischemic heart disease determines the degree of dysfunction or severity with regard to rheumatoid arthritis as there is no comparison with measurement values of the concentration of LPGDS in, for example, rheumatoid arthritis patients in each degree of dysfunction or degree of severity..." (Office Action at page 13, first full paragraph).

In response, and without acquiescing to the propriety of the rejection, Applicants submit that the claimed subject matter is now even clearer and more definite. In particular, Applicants submit that the claimed subject matter now clearly and definitely includes recitation of a comparison between the measured level of human L-PGDS with a predetermined cut-off value based on measurements of human L-PGDS in samples collected from rheumatoid arthritis patients classified in accordance with the degree of dysfunction or severity.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

CONCLUSION

In view of the foregoing Amendment and Remarks, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims. Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

No fee is believed due at this time. However, if any extensions of time are necessary to maintain the pendency of this application, this is an express request for any required extension of time to maintain the pendency of the application, and authorization to charge any required fee to Deposit Account No. 19-0089.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully Submitted,
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